

# Basic Input/Output Systems

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## **ABSTRACT:**

*Our research paper is on the topic “Application programming Interface”. API is a set of functions and procedures that allow the creation of applications which access the features or data of an operating system, application or other service. You often have to rely on others to perform functions that you may not be able or permitted to do by yourself, such as opening a bank safety deposit box. Similarly, virtually all software has to request other software to do some things for it.*

*Data integration is often underestimated and poorly implemented, taking time and resources. Yet it has to accomplish this, the asking program uses a set of standardized requests, called application programming interfaces (API), that have been defined for the program being called upon. Almost every application depends on the APIs of the underlying operating system to perform such basic functions as accessing the file system. In essence, a program's API defines the proper way for a developer to request services from that program. When an industry settles on a data standard, a common API allowing access to applications that processes that*

*data. Although APIs provide a quick and easy way to tap into an application, they can be constraining for certain power users such as independent software vendors as stated by some analysts.*

**DEFINITION:** An application program interface (API - and sometimes spelled application programming interface) is the specific method prescribed by a computer operating system or by an application program by which a programmer writing an application program can make requests of the operating system or another application.

## **USES:**

1.>APIs as a route to create Business Value on the Internet. The Internet continues its relentless transformation of every business. However past investments in Internet and web technology are not enough to ensure future success. New technology enablers are emerging to change the playing field. The companies that miss the window to capitalize on the key enablers will be left behind.

2.> Companies carefully choose the area of their core competence whether at the

architecture or solution level, or among the subsystems. Then they cooperate to bring the modules together into a complete product or solution. In this way the industry gains better economies of scale, maintains high levels of R&D, and delivers more innovation in their products.

3.>The reason that APIs were so important to growth is because of the network effect that occurs when more applications created for a platform, lead to an increase in the value of the platform itself. As soon as a developer ecosystem takes root it becomes more costly to switch to alternatives (because some applications may not be available on the new platform) and it is a prerequisite for a company to become the dominant provider in its market.

4.>The API explosion means that it is feasible to create products which meet customers' expectations and desires more accurately. It may be to meet their use case in a small market niche, or to have access to data in a unique context, or to meet their preference to interact from a smartphone device. Ultimately it provides companies with the flexibility to design completely new business models. This is nothing less than a revolution in the way in which solutions will evolve.

### **Web API:**

When used in the context of web development, an API is typically defined as a set of Hypertext Transfer Protocol (HTTP) request messages, along with a definition of the structure of response messages, which is usually in an Extensible Markup Language (XML) or JavaScript Object Notation (JSON) format. While "web API" historically has been virtually synonymous for web service, the recent trend (so-called Web 2.0) has been moving away from Simple Object Access

Protocol (SOAP) based web services and service-oriented architecture (SOA) towards more direct representational state transfer (REST) style web resources and resource-oriented architecture (ROA). Part of this trend is related to the Semantic Web movement toward Resource Description Framework (RDF), a concept to promote web-based ontology engineering technologies. Web APIs allow the combination of multiple APIs into new applications known as mash-ups.

### **Web use to share content**

The practice of publishing APIs has allowed web communities to create an open architecture for sharing content and data between communities and applications. In this way, content that is created in one place can be dynamically posted and updated in multiple locations on the web:

- Photos can be shared from sites like Flickr and Photo bucket to social network sites like Facebook and MySpace.
- Content can be embedded, e.g. embedding a presentation from Slide Share on a LinkedIn profile.
- Content can be dynamically posted. Sharing live comments made on Twitter with a Facebook account, for example, is enabled by their APIs.
- Video content can be embedded on sites served by another host.
- User information can be shared from web communities to outside applications, delivering new functionality to the web community that shares its user data via an open API. One of the best examples of this is the Facebook Application platform. Another is the Open Social platform.

- If content is a direct representation of the physical world (e.g., temperature at a geospatial location on earth) then an API can be considered an "Environmental Programming Interface" (EPI). EPIs are characterized by their ability to provide a means for universally sequencing events sufficient to utilize real-world data for decision making.

### SUMMARY:

APIs are opening up a new chapter for the Internet. Content and services are the digital assets that are the core of any business. This report has shown how an API can open up new distribution and solution options and therefore capture more value from these assets. An API unlocks the value of the firm's digital assets and explodes reach well beyond the website to mobile apps, partners, developers and more. This greater reach allows partnerships to be leveraged, and creates a multiplier effect for key assets - thus bringing the opportunity to innovate with completely new business models. Competitors are left standing still, while customers can access content and services exactly the way they want. With API we can-

#### 1. Identify our core digital assets

Brainstorm what solutions could be invented with the help of your digital assets

1.> Define a few scenarios for an API-based business strategy and business model

2.> Scope out requirements to implement your API initiative

3.> Start with one strategy and business model, and be ready to adapt and change

## References

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